

WHAT IS CLAIMED IS:

1.           A personal authentication device comprising:  
              a light source for emitting light to be  
transmitted through a finger;  
              an image capture part for capturing the  
light; and  
              a light amount adjustment unit for adjusting  
an amount of light transmitted through the finger and  
input to said image capture part, and an amount of  
light reflected by a surface of a side face of the  
finger and input to said image capture part,  
              wherein said light source is disposed in a  
horizontal direction or a horizontally slanted  
direction with respect to an image capture face of the  
finger.
2.           The personal authentication device according  
to claim 1, wherein said light amount adjustment unit  
is a shading unit for controlling an irradiation region  
of the finger for the light emitted from said light  
source.
3.           The personal authentication device according  
to claim 2, wherein said shading unit is disposed in  
such a position that shades the light applied to an  
image capture part side of the finger.
4.           The personal authentication device according  
to claim 1, wherein said light source increases an  
amount of light applied to a specific region of the  
finger and serves also as said light amount adjustment

unit.

5. The personal authentication device according to claim 1, wherein said light source emits light from at least two directions at shifted timing, and said image capture part captures an image according to the timing.

6. The personal authentication device according to claim 1, further comprising a guidance part for determining a position of the finger.

7. The personal authentication device according to claim 1, further comprising:

a reflection unit for reflecting light,  
wherein irradiation is performed from the at least two directions by reflecting the light emitted from said light source.

8. The personal authentication device according to claim 1, further comprising:

a unit for measuring thickness of the finger,  
wherein an amount of said light source is controlled on the basis of a measurement result supplied from said image capture unit.

9. A personal authentication system comprising:

a recording unit for recording a plurality of registered captured image patterns of the finger;

the personal authentication device according to claim 1;

a collation unit for collating a captured image pattern supplied from said image capture part

with the registered patterns; and

a control unit for controlling different processing according to a result of the collation.

10. A personal authentication device comprising:

a light source for emitting light to be transmitted through a finger;

an image capture part for capturing the light transmitted through the finger; and

a light amount adjustment unit for adjusting an amount of light emitted from said light source and applied to the finger according to a region of the finger,

wherein said light source is disposed in a horizontal direction or a horizontally slanted direction with respect to an image capture face of the finger.

11. The personal authentication device according to claim 10, wherein said light amount adjustment unit is a shading unit for controlling an irradiation region of the finger for the light emitted from said light source.

12. The personal authentication device according to claim 11, wherein said shading unit is disposed in such a position that shades the light applied to an image capture part side of the finger.

13. The personal authentication device according to claim 10, wherein said light source increases an amount of light applied to a specific region of the

finger and serves also as said light amount adjustment unit.

14. The personal authentication device according to claim 10, wherein said light source emits light from at least two directions at shifted timing, and said image capture part captures an image according to the timing.

15. The personal authentication device according to claim 10, further comprising a guidance part for determining a position of the finger.

16. The personal authentication device according to claim 10, further comprising:

a reflection unit for reflecting light,  
wherein irradiation is performed from the at least two directions by reflecting the light emitted from said light source.

17. The personal authentication device according to claim 10, further comprising:

a unit for measuring thickness of the finger,  
wherein an amount of said light source is controlled on the basis of a measurement result supplied from said image capture unit.

18. A personal authentication system comprising:  
a recording unit for recording a plurality of registered captured image patterns of the finger;  
the personal authentication device according to claim 10;

a collation unit for collating a captured

image pattern supplied from said image capture part with the registered patterns; and

a control unit for controlling different processing according to a result of the collation.

19. A personal authentication device comprising:

a light source for emitting laser to be transmitted through a finger; and

an image capture part for capturing the laser transmitted through the finger,

wherein said light source is disposed in a horizontal direction or a horizontally slanted direction with respect to an image capture face of the finger.